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10/601,398	06/23/2003	Yu-Hong Shih	TSAI/0005	7741

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WILLIAM B. PATTERSON
MOSER, PATTERSON & SHERIDAN, L.L.P.
Suite 1500
3040 Post Oak Blvd.
Houston, TX 77056

EXAMINER

KALIVODA, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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2881

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/601,398

Applicant(s)

SHIH, YU-HONG

Examiner

Christopher M. Kalivoda

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 1,2,6,11 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 23 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1, 2, 6, 11 and 16 objected to because of the following informalities:

a. Regarding claim 1, "and in a reverse transformation" is misleading. For purposes of examination, it is assumed to mean converting electrical signals into optical signals.

b. Regarding claim 2, line 2, there is an extra word "the" before the word "printed". In addition, the interface "makes use of" PCB technology.

c. Regarding claim 6, there is no antecedent basis for the optical signal receiver. It appears this claim may depend upon claim 5 as opposed to claim 1.

d. Regarding claim 11, line 2, there is an extra word "the" before the word "printed".

e. Regarding claim 16, line 2, there is an extra word "a" before the word "an". Appropriate correction is required.

Specification

2. The disclosure is objected to because of the following informalities: There should to be a sentence indicating this application claims priority on Taiwan Application 92102058 filed January 29, 2003. It would be placed under a heading "CROSS-REFERENCE TO RELATED APPLICATIONS".

In addition, there are a few typos noted. In para 3, line 10, there is a stray '=' sign. In para 19, next to last line, the word "linger" should be "finger". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding dependent claim 10, there appears to be a typographical error in lines 5-7 rendering the claim unclear regarding the optical signal transmitter. During transmission, electrical signals are converted to optical signals for transport along a fiber. As written, it appears optical signals are converted electrical signals and transmitted along a fiber. Claims 11-17 are dependent upon claim 10. For purposes of examination, it is assumed that during transmission, electrical signals are converted to optical signals and during receiving, optical signals are converted to electrical as claimed in lines 8-9.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poplawski et al. U.S. Patent 5,717,533 in view of Schachter, U.S. Patent 4,044,888. Regarding independent claim 1, Poplawski et al. describe a pluggable optical transceiver module comprising an optical fiber connecting interface (Fig 1, ref 20) connecting with an optical fiber to transmit optical signals (col 4, lines 7-8); an optical signal transceiver (col 3, last 2 lines, col 4, lines 1-2 and Fig 1, ref sign 10) connecting with the optical fiber connecting interface to transform the optical signals into electronic signals and in a reverse transformation (col 1, lines 15-22) and a connecting interface connecting the optical signal transceiver to transmit the electronic signals (Fig 1, ref sign 66).

However, the reference is silent with respect to the term "golden finger" connecting interface.

Schachter describes the use of "gold finger" connecting interfaces for use with printed circuit boards and mating with cooperating connectors (sockets) (col 6, lines 63-68, col 7, lines 1-3 and Fig 17).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Poplawski et al. and use “golden finger” connecting interfaces as taught by Schachter.

The motivation for using “golden finger” connecting interfaces would be to permit repeated connection and disengagement from a printed circuit board connector without impairment of the electrical characteristics of the resulting connection (col 7, lines 20-25).

Regarding dependent claim 2, Poplawski et al. in view of Schachter teach the limitations of claim 1 as described above. In addition, the golden finger interface makes use of printed circuit board technology to print the golden fingers (col 7, lines 4-7).

Regarding dependent claims 3 – 9, Poplawski et al. in view of Schachter teach the limitations of claim 1 as described above. Poplawski et al. also teach the optical signal transceiver comprises an optical signal transmitter that is a laser diode and an optical signal receiver that is a photodiode (col 4, lines 39-42). In addition, the transceiver module comprises a corresponding socket (Fig 1, ref sign 126) with an interface corresponding to the golden finger connecting interface (Fig 1, ref sign 66). Lastly, the transceiver module comprises a bi-direction (col 1, lines 15-17) small form factor optical transceiver module since Poplawski indicates that as with all electronic

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equipment, there is a need to have a package which occupies as little as circuit card surface as possible (col 1, lines 25-28).

Regarding independent claim 10, Poplawski et al describe a bi-directional (col 1, lines 15-17) small form factor optical transceiver module (col 1, lines 25-28) comprising an optical fiber connecting interface (Fig 1, ref 20) connecting with an optical fiber to transmit optical signals (col 4, lines 7-8); an optical signal transmitter (col 4, lines 39-42) connecting with the optical fiber connecting interface to transform output electrical signals into output optical signals (col 1, lines 15-22), an optical signal receiver (col 4, lines 39-42) connecting with the optical fiber connecting interface to transform input optical signals into input electronic signals (col 4, lines 39-42) and a connecting interface connecting the optical signal transmitter and the optical signal receiver to transmit the input electronic signals and the output (Fig 1, ref sign 66).

However, the reference is silent with respect to the term "golden finger" connecting interface.

Schachter describes the use of "gold finger" connecting interfaces for use with printed circuit boards and mating with cooperating connectors (sockets) (col 6, lines 63-68, col 7, lines 1-3 and Fig 17).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Poplawski et al. and use "golden finger" connecting interfaces as taught by Schachter.

The motivation for using "golden finger" connecting interfaces would be to permit repeated connection and disengagement from a printed circuit board connector without impairment of the electrical characteristics of the resulting connection (col 7, lines 20-25).

Regarding dependent claim 11, Poplawski et al. in view of Schachter teach the limitations of claim 10 as described above. In addition, the golden finger interface makes use of printed circuit board technology to print the golden fingers (col 7, lines 4-7).

Regarding dependent claims 12-17, Poplawski et al. in view of Schachter teach the limitations of claim 10 as described above. Poplawski et al. also teach the optical signal transmitter comprises a laser diode and the optical signal receiver comprises a photodiode (col 4, lines 39-42). In addition, the transceiver module comprises a corresponding socket (Fig 1, ref sign 126) with an interface corresponding to the golden finger connecting interface (Fig 1, ref sign 66). The socket is also mounted in an electric appliance (col 1, lines 23-25), in this case a computer, I/O system, peripheral device or switch. Lastly, the transceiver is a small form factor optical transceiver

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module. Poplawski indicates that as with all electronic equipment, there is a need to have a package, which occupies as little circuit card surface as possible (col 1, lines 25-28)

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a transceiver module about 0.5 inches wide.

The motivation would be to increase the package density by using as little space as possible on the circuit board.

Conclusion


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Kalivoda whose telephone number is (571) 272-2476. The examiner can normally be reached on Monday - Friday (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


cmk


JOHN R. LEE
SUPERVISING PATENT EXAMINER
TECHNOLOGY CENTER 2800